

Pickens County Early Action Plan for the 8-Hour Ozone Standard

Background

In 1997, the Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard (NAAQS) for Ozone from a one-hour standard to an 8-hour standard. This was done to reflect the latest understanding of the effects of ozone exposure and provide public health protection with adequate margin of safety. EPA will be designating areas as attainment (meeting the standard) or non-attainment (not meeting the standard) in April of 2004. This designation will be based on the most recent three years of monitoring data (i.e., 2001, 2002, 2003). The Department of Health and Environmental Control (DHEC) has an intensive monitoring network covering the state and routinely monitors for ozone during the months of April through October. This time period is often referred to as the “Ozone Season.” If an area is designated non-attainment, the Clean Air Act (CAA) requires states to revise their State Implementation Plan (SIP) outlining how the area will return to attainment within a certain time period. If EPA designates areas in South Carolina as non-attainment in April of 2004, a revision to the South Carolina SIP will be due no later than 2007. Additionally, once an area is designated as non-attainment, the CAA has specific requirements that must be implemented. These requirements affect industry, economic development, and transportation. One requirement, Non-attainment New Source Review sets out the level of emissions reductions required for new and modified industrial facilities. Another requirement of non-attainment areas is to coordinate local transportation and air quality planning to ensure that transportation plans, programs and projects are consistent with air quality goals. According to the CAA, transportation plans, programs, and projects cannot create new violations of the Federal air quality standards; increase the frequency or severity of existing violations of the standard; or, delay attainment of standards.

The above approach is commonly referred to as the “traditional” approach. While safeguards for areas to return to attainment are included, certain prescriptive requirements may not be appropriate for all areas designated non-attainment for the 8-hour ozone standard. As a result, EPA provided an option for areas that were meeting the one-hour standard to attain the 8-hour ozone standard by December 31, 2007, and obtain cleaner air sooner than currently federally mandated. This option offers a more expeditious time frame for achieving emissions reductions, while providing “fail-safe” provisions for the area to revert to the traditional SIP process if specific milestones are not met. EPA will move forward with the designation process (attainment or non-attainment) but will defer the effective date, thus the prescriptive requirements of non-attainment designations, provided all terms and conditions of an Early Action Compact (EAC) are being met.

Forty-five counties in South Carolina elected to participate in the development of an Early Action State Implementation Plan (EAP). Participants in the EAC include the county, DHEC and the EPA. All of these parties agree to work together to implement federal, state and local emissions control measures that will allow the non-attainment areas to attain the 8-hour ozone standard earlier and therefore avoid implementing costly prescriptive measures. The EAC requires that all counties submit a local Early Action Plan to DHEC by March 31, 2004.

Pickens County may be designated non-attainment for the 8-hour ozone standard even though monitoring data indicates that Pickens County is meeting the standard. As air knows no boundaries, implementation of its local emission reduction strategies will need the support of other local emission reduction strategies as well as federal and state rules and regulations to provide cleaner air sooner to citizens of South Carolina.

What is Ozone?

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone is one of six criteria pollutants used by the EPA as an indicator of air quality. Depending on where ozone is found, it can be good or bad. Occurring naturally in the upper atmosphere, ozone acts as a shield from the sun's harmful ultraviolet rays. However, ground-level ozone is a concern during the summer months when the weather conditions are favorable for producing ozone. Ozone is formed by chemical reactions between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Ozone is a major ingredient of smog.

Ozone Health Effects

Ozone can cause permanent damage to the respiratory system. Active children are at highest risk from ozone exposure because they often spend a large amount of time outdoors. Active adults of all ages who exercise or work outdoors have an increased risk of exposure to elevated levels of ozone. People with asthma or other respiratory diseases are particularly sensitive to ozone exposure.

Sources of NOx and VOCs

NOx and VOCs come from emissions from the following sources: stationary, area, mobile and natural. Stationary sources include larger permitted industry and power plants. Area sources are small, stationary and non-transportation sources that collectively contribute to air pollution. Area sources include gas stations (emit NOx) and dry-cleaners (emit VOCs). Mobile sources are divided into two categories, on-road and off-road. The off-road mobile sources include trains, ships, boats, airplanes, lawn equipment, and construction equipment. On-road mobile sources include cars, trucks, and buses. Natural sources for VOCs are released from vegetation, mostly trees in South Carolina. Natural sources for NOx are very rare and include emissions from soil, lightning, and oceans.

Stakeholder Involvement

Pickens County has utilized its citizenry in the developed its Emission Reduction Strategies. Stakeholders are involved in the Pickens County Air Quality Advisory Committee, and citizens have been invited to participate through the public hearing process. Progress reports submitted every six months will provide information regarding public relations, the activities of the Advisory Committee, and a complete listing of public outreach initiatives.

Emission Reduction Strategies

Through the development and implementation of this plan, local emission reduction strategies that are economically feasible and that make sense for the county will be implemented no later than April 2005. In doing so, these efforts should assist the state in achieving the 8-hour ozone standard by December 31, 2007, and maintaining the standard beyond 2012.

A number of federal control measures are in place and/or will be phased in over the next several years. These programs include the Tier II and Low Sulfur Gasoline and also the NO_x SIP call. All of these programs have been developed to help areas attain air quality standards.

The state is also proposing new and/or modifications to regulations that will assist non-attainment areas. The State programs could include a regulation that would result in VOC and NO_x reductions; modifications to the open burning regulations and a process to assure transportation plans, programs, and projects consider air quality goals.

Attachment 1 contains a list of emission reduction strategies that will be implemented by the county. While it may not be possible to determine emissions reductions for each of the strategies included, directionally sound strategies have been selected and the county anticipates the cumulative impact of adopting each of these strategies will assist in maintaining the standard.

Maintenance

The county will continue to address strategies that will assist in long-term maintenance of the 8-hour ozone standard. DHEC will continue to provide the air quality monitoring necessary to determine attainment of the 8-hour ozone standard. Yearly, at the end of each ozone season, there will be a review and evaluation to determine the effectiveness of the strategies adopted. If necessary, additional emission reduction strategies may be adopted. Maintenance of the standard will depend upon the success of emission reduction strategies implemented as well as federal and state initiatives.

Pickens County Early Action Compact Milestone - March 2004

Based on stakeholder consultation and taking into consideration resource and political constraints, the following control measures under consideration can be reasonably implemented. It is anticipated these measures under consideration will assist Pickens County in achieving and/or maintaining the 8-hour ozone standard by 2007 and beyond.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Public Relations	1)Diesel-retrofit optimization study & implement. Share with fleet owners. 2)Catalytic converter study and implement. Share with public and fleet owners. 3)Detail landfill methane extraction benefits in publications to public 4)Develop Park & Ride program in conjunction with county mass transit. 5) Detail benefits from specifications that improve air pollutant emissions 6)Develop publication to promote car pooling 7)Review County “no-idling” policy with staff and publications to public 8)Notify public on any taxing modifications that promote fewer pollutant emissions 9) Promote development, use and notifications for new and existing mass transit program	Not quantifiable at this time.	April 2005	County wide program implemented by County administration
Ozone Adv Comm	Periodic meetings to oversee the direction of County during implementation of Ozone EAC action items. Continue to develop new courses of action as program continues to develop.	None Available	Completed and ongoing.	County wide program implemented by County administration
Heavy Diesel Retrofits/Alternative Fuel for County Fleet	1)Develop inventory of heavy diesels. Study retrofit technologies and synergy with alternative fuel. Develop economic optimization plan for retrofitting schedule. 2)Look at biodiesel, ULSD, options and incorporate into economic optimization plan for heavy diesel retrofitting. 3) Retrofit vehicles. 4) Schedule heavy-diesel retirement plan for vehicles not retrofitted. 5)Share findings with diesel fleet owners and public relations program.	Not quantifiable at this time	April 2005	County-owned vehicle pool administered by County administration
Catalytic Converter County Fleet	1) Evaluate fleet emissions maintenance history for light duty vehicles. 2) Develop SOP if needed to meet mfr's recommendations. 3) Implement SOP. 4) Report finding to fleet owners and public relations program.	Not quantifiable at this time	April, 2005	County-owned vehicle pool administered by County administration
Landfill Methane	Methane extraction system under construction at Easley Landfill. Document pollutant reductions and report in public relations program.	Unknown at this time	February, 2004	Municipal Landfill owned/operated by County administration.
Park & Ride	Coordinate Park & Ride locations with the development of mass transit in Pickens County.	Not quantifiable at this time.	April, 2005	County wide program implemented by County administration
Contract Specs	Develop SOP for combustion engine purchases and for contract services received from operators of mobile sources.	Not quantifiable at this time.	January 2005.	County-owned equipment pool administered by County administration
Carpooling	Develop brochure for public relations program.	Not quantifiable at this time.	April, 2005	County wide program implemented by County administration
No-Idling Policy	“No-Idling” Policy developed for Pickens County in September, 2003	Not quantifiable at this time.	Completed, 9/2003.	County-owned vehicle pool administered by County administration
Property Tax Rules	Work with Pickens County administration to develop tax rule modifications that will promote pollutant emissions reduction. Report findings in public relations program.	Not quantifiable at this time.	April, 2005	County wide program implemented by County administration
School Bus Program (Added 12/2003)	County to offer assistance to School District to improve Bus ridership, school parking permits, special restrictions for air quality, May -June emphasis. Traffic control.	Not quantifiable at this time.	8/2004 or 2005	County administration to assist County School District in County-wide program

